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ABSTRACT

This paper discusses the use of the Internet for international education. The first section addresses the context of international education. The second section focuses on the Internet as more than a research tool. The third section presents the following assumptions advocating for the integration of online technologies to enhance international education: (1) there is value to the teacher who is responsible for delivering a quality education; (2) there is value to the student in terms of learning outcomes and positive attitude change; and (3) in an increasingly interdependent global society, there is value to this country to have U.S. students receive an education that values cultural differences and global exploration. The fourth section summarizes benefits of internationalization of education through online collaborative project work. The fifth section describes how Internet-based global collaborations benefit math, science, art, health, and other classes through skills development, motivation to learn, and connecting learning to action. The sixth section considers challenges to attaining these benefits, including equipment, assessment, training, language differences, cross-cultural complexities, and the importance of reciprocity. The final section discusses what needs to happen now. (Contains 13 references.) (MES)

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Expanding International Education through the Internet: No Longer Limited to the Global Studies and Language Curriculum

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The White House has recently drawn attention to the need to expand and enhance international education in the United States. President Clinton has written, "To continue to compete successfully in the global economy and to maintain our role as a world leader, the United States needs to ensure that its citizens develop a broad understanding of the world, in other languages, and knowledge of other cultures. America's leadership also depends on building ties with those who will guide the political, cultural and economic development of their countries in the future."[1]

President Clinton continues, "The Secretaries of State and Education shall strengthen and expand models of international exchange that build lasting cross-national partnerships among educational institutions with common interest and complementary objectives." He also notes that, "The Secretaries of State and Education, in cooperation with other agencies, the academic community and the private sector, shall promote wise use of technology internationally..."

In the 1980s, there was a similar governmental interest in enhancing international awareness and education--through the expansion of citizen exchanges. While significant for the persons involved, the youth and student exchanges that resulted from this important initiative tended to be focused on the individuals who underwent the transformational experiences involved in crossing cultures at an early age and those immediately in contact with them.

It was an important, yet personal experience for a relatively small number of people who physically traveled to different countries.

What sets the new international education initiative apart, is that in 2000, for the first time in human history, the potential exists for exponential growth in direct international interchange. It is an interchange that has the ability to heighten cultural awareness and provide opportunities for direct life applications of the knowledge gained by crossing traditional boundaries of nation, language, time and culture.

Through the Internet, significant opportunity exists for human-to-human interactions, experiential learning and direct curriculum applications. Our students have the opportunity to both learn and teach through direct interaction. Further, students have the opportunity to observe, learn and address the serious global issues for which education is designed to prepare them as adults. Technology now gives students the means to directly interact on these issues. Therefore, the challenge for education is to develop curriculum-based strategies that are relevant to this context. U.S. students can then learn, first hand, the very divergent human socio-economic and political realities that exist in the world and participate in meaningful project-based approaches (service-learning) that produce, meaningful, educational and real-world outcomes.

The Context of International Education

According to a United Nations Development Programme's "Human Development Report," the planet holds 1.3 billion people who live on incomes of less than one dollar a day; at the same time, the three richest nations in the world have assets that exceed the combined gross domestic product of the poorest 48 countries.[2] In this reality, former Costa Rican President Oscar Arias writes that as the material transformation occurs through the world economic order, there must be a parallel expansion of a consciousness that the issues of "environmental destruction and human deprivation, of disease and malnutrition, of conspicuous consumption and military build-up are worldwide problems--problems that affect us all." Arias points to the critical role of education in the fostering of this consciousness.[3]

This economic reality provides both a challenge and opportunity. Teachers throughout the United States are looking to expand interaction with peers around the world. The use of on-line technologies in international education is very recent. During the past 15 years, there has been a general progression in on-line international education, characterized by the following over-simplified steps:

1) In the late 1980s, foreign language teachers (and ESL teachers in other countries) were some of the first to recognize the potential for this technology to bring authentic interaction and materials into their classrooms.

2) In the 1990s, global studies and world affairs teachers learned that they could heighten interest in the issues being discussed if their classes were interacting with real students and teachers in the countries that were in the news or were part of the curriculum.

3) In 2000, international collaborative education is on the threshold of being integrated into **all** aspects of a teacher's curriculum and we are fortunate to have educators who now have 5-10 years of experience to help with professional development

This increase in interest across all subject areas is a result of the general acceptance that U.S. students need to have skills that are applicable to a 21st century global economy. We know that students need cross-cultural awareness and appreciation, flexible and critical thinking skills, communication ability, team work experience, technology skills, and the realization that no nation works in independent isolation, but is interdependent on the actions and perspectives of many others around the world. Further, there is a growing awareness that the widening gap in income, health, access to technology and information around the world is one that must be addressed by all if global political and economic systems are to thrive.

As teachers reach out to link with peers in other countries and as schools in the United States improve their technology base and connectivity, the reality of most of the world's schools and households must be kept in mind. It may seem obvious, but we must constantly remind ourselves that it is the international interaction and education that benefits our students, not the use of high-end technology that our schools may have just acquired. I say this because I am always being asked by U.S. teachers who have installed the latest in video-conferencing technology to match them with schools around the world with which they can use this technology, only to disappoint them with a very small number of possible connections.

In short, the faster schools in the United States attain broadband access and higher-end technology, the fewer international schools we will be able to link with on an equal basis. As U.S. schools acquire this incredible technology, they must realize that:

- most schools in the world do not have computers
- most schools in the world have one telephone line--used solely for administrative purposes
- many of the 5% of schools having Internet access use dial-up connections over slow and expensive telephone lines

This reminder is not presented to dampen enthusiasm among U.S. teachers to link with colleagues around the world, but rather to assist in the process of effective interaction. Indeed, I*EARN teachers in some countries have been engaging in project-based learning since 1988, often with minimal technology and connectivity, yet with demonstrable results. Teachers in the United States simply need to recognize the hurdles which need to be overcome and can be surmounted.

This availability of equipment is changing rapidly as a result of notable private and public sector initiatives on the part of many Ministries of Education and Internet and hardware providers. For example, a number of Ministries of Education have announced policies that will result in computers being placed in all schools in their country within 2-4 years.

But, as we know, the installation of computer equipment and Internet access is only the first (and perhaps easiest) step toward effective integration into the classroom. Teachers need effective professional development and support on an on-going basis. After all, schools in the United States have had computers in their schools for over 20 years now and yet without on-going professional development Internet resources and interaction are not used extensively in collaborative project work in our own country.[4]

Internet as More than a Research Tool

Many educators have written on the research benefits of the Internet in the field of international global studies. It clearly puts into the hands of teachers and students materials and resources that have been out of reach and that are more up-to-date and certainly less expensive than printed materials. This global resource library is without precedence in history. It has the potential for enabling millions of persons in local communities in every part of the world to have access to the same information and resources enjoyed by educators and students in connected schools. This can be of particular importance in communities in which libraries, books and even paper are scarce or seriously out-dated.

More importantly, the Internet also has the incredible potential for creating information and materials from a local perspective in national and local languages--often for the first time--rather than having to rely on resources developed in North America or Europe about the world's cultures.

The educational value of this global research library cannot be underestimated. Of course, this library, like earlier collections of printed resources, also brings with it the need for our students to have critical thinking and analysis skills to evaluate the content of materials.

Yet, to see the Internet solely as a larger, better, more visually-pleasant library, is to miss its most important value--its ability to link humans for international collaborative learning and action. Over the past 12 years, we have seen that it is the **peer interaction** across borders, languages, cultures, and time-zones that stimulates students and teachers to be active participants in the learning process.

The simplicity of this concept belies its importance and potential for revolutionizing education. We are leaving a very long era of learning about cultures from a distance and entering an age of students learning both by interacting with those cultures and explaining their own.

In this paper, I will outline what I consider to be the most critical impact on international education in the United States, and, more importantly, what must be in place in local schools if students and the nation are to effectively attain these benefits.

First, I would like to list a number of assumptions that I make in discussing, indeed, advocating for the integration of on-line technologies to enhance international education.

Assumptions

Assumption One: There is value to the teacher who is responsible for delivering (or facilitating) a quality education to American students. It is my experience over the past ten years that on-line international interaction using technology:

1) Provides a new sense of community by encouraging and furthering connections both within local schools, as well as far beyond school school walls
2) Enables a teacher to acquire new teaching/facilitating/learning techniques and skills
3) Positions a teacher to become a cross-cultural asset/resource for the school and community
4) Motivates teachers by observing higher motivation and academic achievement among students

A 1996 Australian assessment by the Whalesong Foundation for the Ministry of Education of Victoria of the "Global Classroom" project through which classrooms engaged in international collaborative project work, found dramatically positive rates of teacher satisfaction with teaching and learning enhancements.[5]

An English teacher in Latvia who worked for a school term in 1999 in an interactive Learning Circle with schools in the United States, Kazakhstan, Italy and Germany, describes at length the new skills she observed her students gaining, and then points out:

> ***I must say that the project enriched not only the students, but also me, their teacher. It gave me an opportunity to work creatively, to widen my knowledge of computers, not only to teach students, but also to cooperate with them, and to build friendships that continue so far.***[6]

Assumption Two: There is value to the student in terms of learning outcomes and positive attitude change.

1) Teachers provide real classroom testimonies on a frequent and consistent basis that students are more motivated to learn as a result of engaging in on-line collaborative work with peers internationally. For example, one teacher at Erasmus Hall High School in Brooklyn, New York, observed his students scoring higher on state Regents exams and noted, "The greatest benefit of these on-line projects is that they teach students to think critically and explain themselves thoroughly."[7]
2) Teachers and students both report that on-line collaborative work gives practical applications for language and global issues courses. Research by language teachers, for example, indicates that enrollments in language courses rose--even in languages other than the one involved in the international interaction--because students newly perceived a reason for their study.

3) As the economic and political systems become more closely integrated worldwide, U.S. students need to be prepared for a new century in which worldwide interaction will be a daily occurrence. On-line collaboration provides a safe and educationally sound environment for cultural exploration, while developing a comfort with working with a widely-diverse community.

Assumption Three: In an increasingly interdependent global society, there is value to this country to have U.S. students receive an education that values cultural differences and global exploration. As early as February 1966, President Lyndon Johnson addressed the issue of international education:

> ***"Schooled in the grief of war, we know certain truths are self-evident in every nation on this earth:***
> ***- Ideas, not armaments, will shape our lasting prospects for peace***
> ***- The conduct of our foreign policy will advance no faster than the curriculum of our classrooms***

- The knowledge of our citizens is one treasure which grows only when it is shared

International education cannot be the work of one country. It is the responsibility and promise of all nations. It calls for free exchange and full collaboration. We expect to receive as much as we give, to learn as well as to teach."[8]

Heightened international education and interaction is seen to benefit the United States (indeed, any country) in three ways:

1) Its citizens are more prepared and skilled to enter into global political, financial, and cultural interchanges. The classic example of that need was when General Motors introduced the "Nova" car in Latin America and discovered afterwards that Spanish speakers did not want to buy a car whose name means "doesn't go."
2) Its citizens can respond to domestic and international civic responsibilities with more knowledge and cultural sensitivity and therefore, with more effectiveness
3) Likewise, citizens in other countries also get to know the people and culture of the United States.

Benefits of Internationalization of Education through On-line Collaborative Project Work

There are obvious benefits from international on-line networking to language and world cultures classes. There is in fact, a growing body of literature on the use of e-mail and other Internet interactions to enhance second and third language abilities.[9] Two pioneer language teachers, one in Rochester, NY and one in Moscow, using telecommunications as a part of their classroom activities, have seen that it can be a rich source of authentic teaching/learning material. They saw improvements in language skills acquisition when the following four elements were integrated into the language curriculum:

1. Teacher-made material based on telecommunications exchange
2. Creative writing exchange
3. "Live" material related to project work
4. Material prepared by students in one country to foster the study of foreign language in the other country.[10]

My own organization, I*EARN-USA, has recently partnered with the Office of Citizen Exchanges of the United States Department of State to demonstrate that English language skills are enhanced when students in eleven pilot countries engage in on-line collaborative projects with native speakers.

Similarly, teachers who are focusing on a country, region or culture as part of a global studies course are quick to realize the potential for developing links with peers and classes in regions under study. Authentic interaction gives a sense of realism and relevance to a culture that is often initially viewed as distant, peripheral and esoteric.

Typical of this experience is a teacher in Ukraine who participated in the I*EARN "Kindred Project," in which students describe their family structures, patterns and traditions from their cultural perspective:

We are so excited working in the project because we ourselves learned so much about our students, as if the project touched the hidden strings of their souls which turned out to be so kind and interested.

Heightened student motivation to explore and learn on a self-directed basis is a common theme of teachers utilizing telecommunications in foreign language and global studies classes. Teachers report that students go beyond the teacher's lesson plan and assume responsibility for learning and then sharing that learning with other students in the class.

Beyond these benefits of international networking to language and cross-cultural classes, it is becoming clear that significant benefits also can be gained by integration of international telecommunications into other (perhaps all) components of the curriculum.

Internet-based global collaborations benefit math, science, art, health and other classes

What was seen in initial language and global studies classes is now visible in science, art, literature, health, math and other classes. On-line collaborative project work heightens student interest in these subjects as well. Applications in these subject areas also results in a recognition that, regardless of the aspect of life, everything we do has an international connection--helping to build that "consciousness" about which Oscar Arias wrote.

Listening to teachers and observing the work of students, the benefits of internationalizing the curriculum through the Internet fall within the three following categories:

1. Skills Development
2. Motivation
3. Opportunities for action from the learning

1. Skills Development

A body of evidence is now available to suggest that significant skills development results from on-line international interaction, including enhanced reading, writing, presentation skills, geographic knowledge, and self-confidence.

One teacher in Arizona writes that her bilingual students gained important communications skills and a sense of pride when they worked with students in Romania--a country with a Romance language with ties to Spanish:

> ***Students have become more aware of their work and presentation skills. Last year my students were involved in a project that connected Math across the curriculum and the Globe. Most of my students do not have a computer in their home and were unaware of of the world outside of theirs. They gain an understanding and awareness of the importance of making oneself understood when they received an email from fellow keypals in Romania (a place they had to look up and wanted to know a bit more about) asking them to reexplain their directions and make them clearer and more concise. My bilingual students wrote some of their work in Spanish, also. They felt that their other language abilities were being appreciated especially on the "outside". They were extremely proud of their work.*** <http://equity4.clmer.csulb.edu/netshare/gdeklerk/gln/>[11]

An ESL teacher in Hawaii points out that her students, recent immigrants from Pacific Islands, gained technical skills as an integral part of their international interaction with students in their birth nations:

> ***Take a look at <http://www.konawaena.k12.hi.us/boisvert/ctc/handwelcome.html>. If you click on any of the students' Power Point presentations, you will see that our Marshallese and other ESL students have been using technology to link their old world with the new one, which is the USA. If I had more time, I could talk to you at length about the benefits of technology for our ESL students. They are chatting in their respective ethnic groups' chatting rooms, and often times in each other's so are using English to communicate across oceans and continents. It helps them to feel connected. They love it![11]***

Geography becomes real in international on-line work and percolates through math and literature

classes, as well as in hallway conversations. A teacher in North Carolina writes:

> ***When we started, most of the students had no idea where Bulgaria was located, much less any idea as to its history. In the course of our participation, the students learned some basic facts about the country, had a speaker from Bulgaria to visit the class, learned about some Christmas in Bulgaria and about martinitsas, and came to feel a sort of personal connection to the Kosovo situation that was a different perspective from most of their friends. In summary, a place on the map became real to the students and it will forever be that way to them.***

Self-expression skills often emerge that were unintended, For example, another teacher in North Carolina notes:

> ***I have seen this partnership turn many of my students from being self centered to a more balanced student. It has also allowed my students who are less vocal and social, to participate in a project that allowed them to be themselves in a non-threatening way. They were able to communicate and express ideas without fear.***

Similarly, involvement by female students has been found by I*EARN and the WorLD Program (World Links for Development) to be significantly higher in on-line project-based learning than male participation. Teachers observed that self-confidence and self-esteem rose among girls after international collaborative project work. It was observed that females had the chance through e-mail and on-line interaction to provide input and contributions because it allowed for interaction in an environment different from the classroom in which they felt intimidated or in competition with male students for teacher attention.

2) Motivation to Learn

Regarding the role that on-line interaction plays to motivate students to learn and explore, a headmaster in Karachi, Pakistan writes:

> ***This mail is meant specially to thank you for all the responses you are posting for our students. You cannot imagine the intensity of the encouragement our students are getting from the responses made to them on top of seeing their work a part of these conferences and read by people all around the world. These days there is a creative writing mania all over the school. Before this it used to be a real effort for our English teachers to motivate students to write on their own and put their feelings as well as real life issues in words. Now it is occurring naturally, all students are indulging in creative writing so much that it is difficult for us to handle but it is amazing I mean the speed with which the love for creative writing is developing. Our teachers are now most optimistic about students literary abilities now.***
>
> ***Giving our students a global exposure and enhancing their communication skills I am again thankful to you for taking time out for responding to our students. Your few words make a world of difference to their academic life and interest in the subject.***

The interaction also enables students to see their own lives in a larger and comparative milieu. For example, through a global arts and culture project that links indigenous/native youth in ten countries, a teacher in Mississippi notes:

> ***The students of Choctaw Tribal Schools (as with other First Peoples participants) have discovered a sincere sense of community with indigenous students they have not nor probably will never meet. They have shared their pride and mis-fortune, collaborated for***

improvement and reveled in cultural celebration.

Interaction with real students in different cultural settings sparks a curiosity that does not stop at the boundaries of a 45 minute period. It creates, as noted by this North Carolina teacher participating in the ISPT (International School Partnerships through Technology) Program (http://www.ga.unc.edu/NCCIU/ispt/), a "flame" of interest and a love of teaching and learning:

> ***I just bubble with excitement for this project and the future of this project. I do not want to contain my enthusiasm. I am probably like the proud parents or grandparents that say, "Let me show you a picture of__" instead I say, "Let me show you this email or this project or tell you this story." My students come to class and say, "Are we going to work on the project today? Did we get any mail?, What do you think is going on there?, Did you see___ and ___ about their area on the news?, When are you going to show us how to do ____ and ____ so we can do that with our partners?, Why did you say they aren't able to write right now?" These daily questions reaffirm what I feel. They keep the fire burning and I do not want it to go out for them, for future students, or for myself. This project has been a wonderful way to make my curriculum more relevant, to teach cultural diversity, to teach appropriate social skills, workplace readiness (the fact that they may be working with someone from a different culture or race), and that living in a remote area doesn't mean that you are cut off from the world and that world's events.***

These anecdotal examples were also reflected in the results of a 1992 assessment of the pioneering "New York State/Moscow Schools Telecommunications Project." This assessment noted a dramatic increase among U.S. students in interest in international affairs, reading news magazines at home and discussing social and/or political issues as a result of their on-line project work with students in Russia.[12]

3) Connecting Learning to Action

The Internet is a powerful tool for connecting learning to action as students collaborate on real issues facing young people in the world today. Internet-based international education can help foster what Oscar Arias referred to as the "parallel expansion of a consciousness that the issues of "environmental destruction and human deprivation, of disease and malnutrition, of conspicuous consumption and military build-up are worldwide problems--problems that affect us all."

Further, the Internet can provide specific ways in which students can apply the learning and consciousness to address the issues about which they have studied. For example, a teacher in Winston-Salem, North Carolina describes what happened in her class:

> ***The 9th and 10th grade students in Candi Lavender's social studies classes were involved with an International School Partnership with a school in Moldova. As part of the partnership a website was created and each side contributed pictures, introductions, and news items. Through this correspondence the U.S. students learned of the desperate situation of orphans in this former Soviet Union country. They asked permission to collect donations to send to Moldova. With guidance from Mrs. Lavender, the students organized and carried out the collection, which totaled $500.00. The check was sent to a U.S. military liaison officer stationed in the Capitol city and arrangements were made for one orphanage to receive fresh milk deliveries for an entire year! Mrs. Lavender's students not only gained heightened awareness of events in Moldova, but also initiated an appropriate response to a specific situation that they felt deeply about. These students became aware of how the actions of one school community could positively impact another community an ocean away. There was an incredible sense of pride and accomplishment on the part of these adolescents.***

A technology coordinator in Albuquerque, New Mexico writes:

> ***Children in Carolyn Meehan's 3rd Grade Class at Sandia Base Elementary***

*(SBE) in Albuquerque, NM, participated in the "No Child Without a Smile" Project. The children's teacher learned about the project through her work in I*EARN. The purpose of the project was threefold: to raise funds to support education and medical efforts in Bosnian Refugee camps; to reach out to the children in the camps with personal, caring messages from children around the world; and to engage children in learning about Bosnia in the context of classic elementary school curriculum. The children at SBE made greeting cards and sold them to parents, neighbors, visitors, and themselves for $1.00. The buyers wrote notes to the Bosnian children and the children mailed the cards and the money to the Project Coordinator, Narcis Vives in Barcelona, Spain. The SBE children did this work as part of their regular curriculum: the counting of the money, keeping track of how much they took in, was part of arithmetic, for example. They made graphs showing how much they got on what days. They wrote about their experience as well as writing messages. Elementary children are still learning fine motor skills and the cards were drawn very precisely with rulers. Finally, the children knew exactly where Bosnia was on their globe. They learned about the terrible conflict there. These children have had a real experience with global citizenship. They have made a difference in other children's lives. It isn't necessary to approach global education as a separate enrichment activity. With a bit of imagination, it can become integrated into ongoing curriculum goals.*

One teacher, Kristi Rennebohm Franz, Pullman, Washington, was recently featured on the PBS series on the Digital Divide. Ms. Rennebohm Franz has successfully integrated international networking projects into all aspects of her rural classroom and curriculum. Through her research and many years teaching experience, she has developed the "WRITE to Care Program" (WRITE = Writing and Reading though Integration of Technology in Education). This program is based on the premise that students care about their learning (and thus learn better) when they engage in interactive collaborative on-line projects that focus on caring. Her curriculum, which includes examples of how international project work fits all subjects, is now on the WWW: <http://www.psd267.wednet.edu/~kfranz/>. Kristi's students have learned to read and write better through interactive international on-line project work in I*EARN.

Challenges to Attaining These Benefits

The benefits of international collaboration clearly are attainable. But in the process, school administrators and teachers face a number of challenges that must be addressed. Many of these challenges are familiar to educators involved in national on-line work. The challenges include:

1. Equipment.
   a. On-line technology must be accessible and convenient to every teacher—located as close as possible so it can be used at appropriate moments in a history, literature, art or biology class.

   b. The great chasm of technology and Internet connectivity between schools in the United States and international schools needs to be addressed. While U.S. schools increasingly have high-speed bandwidth and video conferencing capability, in most countries, e-mail is the maximum level of technology available and the gap is widening.

   The opportunity is to empower students to play a role in bridging the gap through such citizen-to-citizen projects as the "First Byte Project" in South Africa <http://wcape.school.za/pfb/pfb.htm>.

   Two new initiatives seek to address this serious obstacle: Alliance for Global Learning

http://www.global-learning.organd the GEMS project between Schools Online http://www.schoolsonline.org> and iEARN <http://www.iearn.org>.

2. Assessment
   a. Anecdotal evidence demonstrating the value of international interaction and collaboration needs to be reinforced with more studies on the academic impact on student performance. At a time when teacher accountability is based increasingly on exam scores and the ability to meet state standards, there are only a few examples of how state curriculum standards are addressed by international collaboration.

3. Training
   a. Attention must be focused on coaching educators how to teach collaboratively. This style of teaching, a key element of on-line, project-based learning, is new to many educators—both in the United States and around the world. Most educators have no experience working with the teacher down the hallway, much less with teachers in different time zones, across borders, speaking different languages, working in different educational systems and approaching life from very different cultural perspectives.

   b. Many educators and their pupils worldwide will need to learn to feel confident in a classroom in which students assume some independent responsibility for their own learning through interactive discussions and cross-cultural exploration.

4. The Tower of Babel
   a. Teachers wanting to work with many of the world's countries will need to be able to accommodate languages other than English. Teachers wanting their second grade students to engage in project work with peers in Latin America, for example, are sometimes surprised when I ask if their students speak Spanish.

   In these cases, it can work to partner these primary school classes with a local high-school Spanish language class, which uses the project work messages as their "authentic texts" to translate. There are some wonderful examples of recent immigrant students serving in this role – enabling them to become assets in a local school and community rather than a perceived liability.Still other teachers are experimenting with software and Internet sites that provide machine-generated translations.

5. Cross-Cultural Complexities
   a. School terms and schedules are very different around the world, particularly when teachers in northern and southern hemisphere schools want to work collaboratively. In Argentina, for example, the school year runs March to mid-December. After allowing for preparation time and year-end exams and proms, teachers wishing to work with Argentine schools have only the period April-May and October-November to engage in interactive work.

   b. Cross-cultural interaction often takes place primarily in a medium that is mostly text, leaving ample room for misunderstandings when facial expressions, emotions and ability to immediately ask for clarification often are not possible. Successful teachers use combinations of written materials and visual aids (often sent by "snail mail"), and when possible, CU-See Me or NetMeeting video conferences. These live, visual interactions can be done with normal modems.

   c. Teachers sometimes feel that unless they teach world history, social studies or a foreign language that they lack the expertise to integrate international education into their classes. One teacher in Wisconsin related the following experience in this regard:

> ***The earth didn't suddenly become round and rotate around the sun because of Copernicus, it just became simpler to describe. Freed of the complicated calculations needed to figure the epicycles of Ptolemy, Renaissance***

astronomers were able to see a new world and a new sky.

Something similar happens today in our classrooms. Letting the whole world into our curriculum makes it easier to teach and learn. Freed of the constraints that made us believe we don't have time for international education, we find global issues and perspectives already thriving in the world of our children—and in our instruction.[13]

6. Learning must be reciprocal and recognized as such.
   a. Because of the predominance of U.S. media and culture around the world, students in the United States will find that they have much to learn about their peers' countries before they can match their peers' awareness about our culture. It is critical for U.S. students and teachers to explore international interaction with curious and open minds.

What Needs to Happen?

The timing of the renewed focus on international education is fortuitous. The educational technology stage has been set and many teachers are eager to utilize the Internet's potential to bring the world into their classrooms. What is now needed are:

1) A demonstration program in each state or region to create professional development models, building on the expertise, methodology and materials that have been produced over the past decade by educators who have pioneered this work. In many cases, this will require the development of effective team-teaching methodologies among language, global studies and other subject area teachers. Examples of such teams exist for both elementary and secondary schools which can be offered to teachers to adapt and further develop for application and replication nationwide.

2) A compendium of "best practices" in learning through on-line international collaboration for wide dissemination via the WWW.

3) Comprehensive research to assess the learning impact of the interactive use of the Internet in international exchanges, including an analysis of how international collaborative project work addresses specific national and state educational standards. We need to learn from those who have blazed the path.

With the power of the Internet in the hands of teachers and students, we have the potential for realizing the dreams of two Presidents of the Americas, Lyndon Johnson and Oscar Arias. Not only will the conduct of our foreign policy be furthered as international education permeates classrooms, it will be based on the consciousness that the issues of "environmental destruction and human deprivation, of disease and malnutrition, of conspicuous consumption and military build-up are worldwide problems--problems that affect us all."

# # # #

[1] For a copy of the "Memorandum for the Heads of Executive Departments and Agencies," see: <http://www.exchanges.state.gov/education/remarks/whstatement.htm>

[2] UNDP, "Human Development Report 1998, New York: Oxford University Press, 1998.

[3] Oscar Arias, forward to Global Education, Kenneth A. Tye, page xi.

[4] See "The Beliefs, Practices, and Computer Use of Teacher Leaders" by Margaret Riel and Hank Becker at: <http://www.crito.uci.edu/tlc/findings/aera/>

[5] See <http://www.whalesong.org/literature/9601.html>

[6] Ligija Kolosovska, "New skills, motivation and self-confidence through implementation of I*EARN projects in English lessons," I*EARN Latviaja Un Pasaule, Riga, 1999, pp 65-73.

[7] Solomon, Gwen. "Special Report: Interdisciplinary Language Arts-Worldwide Writing." Electronic Learning. May/June 1994: 98

[8] See Problems of Prospects in International Education, pp 345.

[9] For example, see E-mail for English Teaching by Mark Warschauer.

[10] Unpublished paper presented by Jane W. Shuffelton and Tatyana Popova, "Telecommunications in the Foreign Language Classroom."

[11] Kevan Chuc from Arizona and Precille Boisvert from Hawaii participate in the Center for Language Minority Educational Research's Telementor Project, a federally funded PSRTEC project designed to address the digital and educational divides. The teachers serve as bilingual technology mentors for their states and participate in IEARN through the Orillas Center.

[12] "Evaluation of the New York State/Moscow Schools Telecommunications Project," prepared for the New York State Education Department by Magi Educational Services, February 1992, pages 14-15.

[13] Mark Wagler, "Making the World Round," to be published in an upcoming Wisconsin State Guide for International Education.